



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,090	01/27/2006	Kenichi Fukuoka	285018US0PCT	1009
22850	7590	01/14/2009	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			PATEL, ASHOK	
			ART UNIT	PAPER NUMBER
			2889	
			NOTIFICATION DATE	DELIVERY MODE
			01/14/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,090	<b>Applicant(s)</b> FUKUOKA ET AL.	
	<b>Examiner</b> Ashok Patel	<b>Art Unit</b> 2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01272006_06222007</u> .                                       | 6) <input type="checkbox"/> Other: ____.                          |

Art Unit: 2889

1. As per oath/Declaration, applicant has not claimed foreign priority. As per record, the instant application is continuation of PCT/JP03/09525 under 35 U.S.C. 371. However, the Examiner could not verify the continuation requirement under 371. Applicant's clarification is requested regarding this matter. Until clarification from applicant, the Examiner takes the position that the continuation requirement under 371 has not been met and accordingly, the Examiner takes the position that requirement for the continuation and the foreign priority has not been met.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the device including: an inorganic compound layer contacting: (1) the anode or the cathode; and (2) the anode and the cathode, as recited in claim 6, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be

Art Unit: 2889

labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kenichi (Japanese document 2003-272857).

Kenichi et al disclose applicant's claimed white electroluminescent device (the sole Figure and Detailed Description paragraph 0009) including in sequence: an anode, a blue emitting layer containing a host material and a blue dopant, a yellow-to-red emitting layer containing a host material identical to the host material of the blue emitting layer and a yellow-to-red dopant, and a cathode, the blue emitting layer and the yellow-to-red emitting layer forming an emitting layer.

As to claims 2-6, Kenichi et al disclose at detailed description paragraph 0009, the blue emitting layer including an oxidizer; a first organic layer between the anode and the blue emitting layer, the first organic layer comprising an oxidizer; the yellow-to-red emitting layer including a reducer; a second organic layer between the cathode and the yellow-to-red emitting layer and the second organic layer including a reducer; and an inorganic compound layer contacting the anode and/or the cathode.

As to claims 7-11, Kenichi et al disclose at detailed description, paragraph 0010, the host material as a styryl derivative, an anthracene derivative or an aromatic amine; the styryl derivative being a di-styryl derivative, a tris-styryl derivative, a tetra-styryl derivative or a styryl amine derivative; the anthracene derivative being a compound

Art Unit: 2889

containing a phenyl anthracene skeleton; the aromatic amine being a compound containing 2, 3 or 4 nitrogen atoms substituted with an aromatic group; and the aromatic amine further containing at least one alkenyl group.

As to claims 12-16, Kenichi et al disclose at detailed description, paragraph 0011, the blue dopant being at least one compound selected from styryl amines, amine substituted styryl compounds and fused-aromatic-ring containing compounds; the yellow-to-red dopant being a compound containing a plurality of fluoranthene skeletons; the yellow-to-red dopant being a compound containing an electron-donating group and a fluoranthene skeleton; a fluorescence peak wavelength of the yellow-to-red dopant being 540 nm to 700 nm; and the thickness of the blue emitting layer or the yellow-to-red emitting layer being 5 nm and more.

5. Claims 1, 2, 4 and 6-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kenichi (Japanese document 2001-250690),

It is noted that the Japanese document 2001-250690 corresponds to U.S. Patent 6,803,120, with same assignee.

As to claim 1, Kenichi et al (Japanese document 2001-250690) disclose applicant's claimed white electroluminescent device (at least Figures 2-3; abstract; claims; Detailed Description,

Art Unit: 2889

paragraphs 0007-0014; 0031, 0032, 0047, 0054) including in sequence: an anode, a blue emitting layer containing a host material and a blue dopant, a yellow to red emitting layer (Detailed Description, paragraph 0031) containing a host material identical to the host material of the blue emitting layer and a red dopant, and a cathode, the blue emitting layer and the yellow-to-red emitting layer forming an emitting layer.

As to claims 2, 4 and 6, Kenichi et al disclose the blue emitting layer including an oxidizer, the red emitting layer including a reducer (Detailed Description, paragraph 0013); an inorganic compound layer contacting the anode and/or the cathode (Detailed Description, paragraph 0014).

As to claims 7-11, Kenichi et al disclose, in abstract, Detailed Description, paragraphs 0032, 0047), the host material as a styryl derivative, an anthracene derivative or an aromatic amine; the styryl derivative being a di-styryl derivative, a tris-styryl derivative, a tetra-styryl derivative or a styryl amine derivative; the anthracene derivative being a compound containing a phenyl anthracene skeleton; the aromatic amine being a compound containing 2, 3 or 4 nitrogen atoms substituted with an aromatic group; and the aromatic amine further containing at least one alkenyl group.

Art Unit: 2889

As to claims 12-16, Kenichi et al disclose, Detailed Description, paragraphs 0011, 0032, 0047, 0054) the blue dopant being at least one compound selected from styryl amines, amine substituted styryl compounds and fused-aromatic-ring containing compounds; the yellow-to-red dopant being a compound containing a plurality of fluoranthene skeletons; the yellow-to-red dopant being a compound containing an electron-donating group and a fluoranthene skeleton; a fluorescence peak wavelength of the yellow-to-red dopant being 540 nm to 700 nm; and the thickness of the blue emitting layer or the yellow-to-red emitting layer being 5 nm and more (col. 19, lines 8-14 etc.).

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).



7. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenichi (Japanese document 2001-250690), which corresponds to U.S. Patent 6,803,120.

As to claims 3 and 5, Kenichi et al (Japanese document 2001-250690) disclose, at Detailed Description, paragraph 0008; Figure 2, the device including a first organic layer between the anode and the blue emitting layer. As to claim 5, note that Kenichi et al disclose that the order may be reversed which means a second organic layer between the cathode and the red emitting layer.

Kenichi et al however do not disclose and the second organic layer including a reducer or the first organic layer including an oxidizer, as claimed by applicant. However providing the reducer or oxidizer either separately or into the light emitting layer would provide the same or similar functional effect. In light of this, applicant's claimed second organic layer including the reducer or the first organic layer including the oxidizer would have been a matter of obvious design choice to one of ordinary skill in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok Patel whose telephone number is 571-272-2456. The examiner can normally be reached on Monday-Thursday.

Art Unit: 2889

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on 571-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ashok Patel/  
**Ashok Patel**  
**Primary Examiner**  
**Art Unit 2879**